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PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: AIBA, et al.

Serial No. 09/690,377

Filed: October 17, 2000

Art Unit: 3721

Examiner: S. Tawfik

Attorney Docket No.: JG-KM-4818D/500576.20020

ANNULAR SUSTAINED RELEASE PHEROMONE-DISPENSER AND ITS INSTALLATION TOOL

Customer No.: 026418

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-COMPLIANCE UNDER 37 CFR 1.192(c)

Dear Sir:

This Brief is re-submitted in response to the Notification of Non-Compliance dated September 13, 2004, in support of the Appeal to the Board of Appeals from the Final Office Action mailed September 24, 2004.

This Brief is filed with a petition for and the requisite fee for a four month extension of time. Therefore, this Brief is timely filed.

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being

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☒ deposited with the United States Postal Service on January 21, 2005 with sufficient postage as EXPRESS MAIL NO. EV 398 731 190 US in an envelope addressed to the: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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BOARD OF PATENT APPEALS AND INTERFERENCES

1. REAL PARTY IN INTEREST

The real party in interest in the above-identified application is the Assignee, Shin-Etsu Chemical Co., Ltd. located at 6-1, Ohtemachi 2 Chome, Chiyoda-Ku, Tokyo, Japan.

2. RELATED APPEALS AND INTERFERENCES

No interference is known to the Appellant, the Appellant's legal representative, or Assignee which will directly affect, be directly affected by or have a bearing on the Board's decision in this Appeal.

3. STATUS OF ALL CLAIMS

The above-identified application was filed on October 17, 2000, and was filed as a divisional application of serial no. 09/173,411, filed October 15, 1998. The above-identified application was filed with original claims 5-7.

It is noted that in an Office Action mailed March 7, 2001, Applicants elected to pursue claims 5 and 6 directed to a method for preparing an annular sustained release pheromone-dispenser and withdraw claim 7 from consideration. On June 7, 2001, Applicants submitted an Amendment to the Office Action. In the Amendment, Applicant canceled claim 5 and added new claim 9 to include the step of pulling apart the central portions of the dispenser to produce the annular sustained release pheromone-dispenser.

Claims 6 and 9 remain in this application and the rejections thereof are hereby appealed.

4. STATUS OF AMENDMENTS

All amendments have been entered. No response has been filed subsequent to the Final Rejection of February 24, 2004.

5. SUMMARY OF THE INVENTION

Conventional pheromone-dispensers suffer a number of disadvantages. For example, the installation of the pheromone dispensers are labor intensive. To reduce the number of dispensers, to be installed per unit area there is a need to increase the amount of synthetic sex pheromone released per dispenser.

The present invention is directed to a method for preparing an annular sustained release pheromone-dispenser comprising arranging a plurality of continuous plastic tubes in which synthetic sex pheromone is accommodated through aspiration, fusing them at predetermined pitches by heating under pressure and then cutting them in the middle of the fused portion to give desired pheromone dispensers. See page 5, lines 16-21 and Figs. 1-14. This is done so that both ends of the each plastic tube is sealed closed (page 10, lines 5-9 and ends 3 in Fig. 1) and the synthetic sex pheromone is easily diffusable and permeable through the tubular wall of the dispenser (page 11, lines 18-21). For example, Fig. 5 shows a pheromone-dispenser where both ends 13 of each plastic tube 12a and 12b are closed. The pheromone dispenser also includes plastic tubes which are integrally connected to each other through a web where the central portion may be pulled apart to separate the central portion of each tube from the central portion of the other tube. See page 10, lines 5-9 and ventral portions 4 of Fig. 2B and web 15 of Fig. 5. Further, the plastic tubes are fused by heating under a pressure after sandwiching the portion to be fused between a pair of pieces made of a plastic material identical to the plastic of the tubes. See page 11, lines 1-4 and a pair of pieces 7 shown in Fig. 4. This provides an additional reinforcement to the sealed ends of the plastic tubes.

6. STATEMENT OF ISSUES PRESENTED

1. Whether Claims 6 and 9 are unpatentable under 35 U.S.C. §103 (a) over U.S. Patent No. 4,017,030 to Coplan, et al ("Coplan") in view of U.S. Patent No. 5,993,843 to Sakurada ("Sakurada").

7. GROUPING OF CLAIMS

Claims 6 and 9 stand or fall together.

8. ARGUMENT

Rejection Based on Coplan in View of Sakurada Under 35 U.S.C. § 103 (a)

The Examiner has rejected the claims as being unpatentable over Coplan in view of Sakurada. The Examiner acknowledges that Coplan does not disclose a method for preparing an annular sustained release pheromone-dispenser that includes a plurality of continuous plastic tubes which are pulled apart at the central portion to separate the central portion of each tube from the central portion of the other tube. The Examiner asserts that Sakurada cures this deficiency of Coplan. The Examiner then admits that Coplan does not disclose cutting the plastic tubes at the middle of each fused portion. However, the Examiner concludes that one skill in the art would have found it obvious to cut the tubes at the middle of each fused portion. The Examiner points to the motivation for doing so as being that the invention would perform equally well with Coplan's disclosure of cutting the tube at the end of the fused portion in Figure 3a. Thus, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention to include a plurality of continuous plastic tubes which are pulled apart at the central portion to separate the central portion of each tube from the central portion of the other tube to the annular sustained release pheromone-dispenser of Coplan.

The Examiner rejects Claim 6 because Coplan discloses that the plurality of plastic tubes are fused by heating under pressure after sandwiching the portion to be fused between a pair of pieces made of the same plastic as the plastic tubes.

However, a review of Coplan shows that it does not disclose cutting the plastic tubes at the middle of each fused portion and an annular sustained release pheromone-dispenser that includes a plurality of continuous plastic tubes which are pulled apart at the central portion to separate the central portion of each tube from the central portion of the other tube. In particular, Coplan is directed to a device for controlled release of vapors where the capillary tubular filament has one open end and one closed end. See Col. 8, lines 53-60 and Figure 1. In addition, Coplan states in Col.8 lines 33-36 that the pheromone deposited in the hollow core of the filament is released by evaporation from the open end of a small tube. Coplan does not even mention that the filament walls are diffusable and permeable by the pheromones. This in unlike the present invention. Further, the cut line of the capillary tubular filament shows that the cut is at the end of the fused portion in Figure 3a so that one end of the filament is open.

In the present invention, the significance of having both ends of the plastic tubes sealed with liquid sex pheromone contained within is so that the pheromone may diffuse and/or permeate the walls of the tubes. This allows for stable sustained release of the pheromone at a desired release rate for a long period of time. In addition the cut line of the present invention is in the middle of the fused portion to make sure that the ends of the annular sustained release pheromone-dispenser stay sealed. In contrast, Coplan does not disclose the production of a tube having both ends closed and, indeed, requires that one end remain open.

The Examiner recognizes the deficiencies of Coplan and thus relies on Sakurada as teaching the step of pulling apart the central portion at the central portion to separate the central portion of each tube from the central portion of the other tube to the annular sustained release pheromone-dispenser of Coplan.

Sakurada does not remedy the deficiencies of Coplan. Most certainly, the secondary reference does not suggest that the both ends of the tube in Coplan should be sealed. Rather, Sakurada teaches a capillary tube that is originally formed as a single tube and is then heated and sealed at each end to form a cyclic tube. The cyclic tube fuses the ends of capillary tubes and is thus more susceptible to open inadvertently.

In the present invention, the tubes produce by the present invention is originally plural and fused to connect to each other through a web. Later, the center portion of the tubes are separated to form a ring. See Figures 5A and 5b. The ring formed from a plurality of tubes is

resistant to opening. This is further shown in Claim 6 where the tubes are heated under a pressure after sandwiching the portion to be fused between a pair of pieces made of a plastic identical to the plastic of the tubes. Thus, the ends of the plastic tubes are reinforced at the fused portion so when the tubes are cut in the middle of each fused portion the ends stay closed even when the center portion of the tubes are separated to form a ring.

Further even if Sakurada does teach the step of pulling apart the central portion at the central portion to separate the central portion of each tube from the central portion of the other tube to a pheromone dispenser, Coplan and Sakurada both do not disclose curring the plastic tubes in the middle of the fused portion, so that both ends are sealed.

There is simply no linking disclosure between the two references that makes he obviousness rejection thereon sustainable and this rejection should not be sustained. The rejection of the claims on appeal based on this combination of references should be reversed.

9. CONCLUSION

In view of the foregoing, it is submitted that the final rejection of the Examiner based on the art of record is improper. Accordingly, it is requested that this Board reverse the rejection raised by the Examiner.

Respectfully submitted,

Dated: January 21, 2004

By _____

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10. APPENDIX

Claims On Appeal

Claims 1-5 (Canceled).

Claim 6 (Previously presented): The method for preparing an annular sustained release pheromone-dispenser as set forth in claim 9 wherein the plurality of plastic tubes are fused by heating under a pressure after sandwiching the portion to be fused between a pair of pieces made of a plastic identical to that of the plastic tubes.

Claims 7-8 (Canceled).

Claim 9 (Previously amended): A method for preparing an annular sustained release pheromone-dispenser comprising:

arranging a plurality of continuous plastic tubes wherein said tubes have a diffusivity and a permeability to a liquid synthetic sex pheromone;

filling the tubes with the liquid synthetic sex pheromone by aspiration;

fusing the tubes at predetermined points by heating under pressure to connect the tubes to each other and to seal each tube at the points;

cutting the tubes at a middle of each such fused portion to produce a dispenser composed of two side by side tubes having closely sealed both end portions which are connected to each other and a central portion; and

pulling apart the central portion to separate the central portion of each tube from the central portion of the other tube.

Further even if Sakurada does teach the step of pulling apart the central portion at the central portion to separate the central portion of each tube from the central portion of the other tube to a pheromone dispenser, Coplan and Sakurada both do not disclose cutting the plastic tubes in the middle of the fused portion, so that both ends are sealed.

There is simply no linking disclosure between the two references that makes the obviousness rejection thereon sustainable and this rejection should not be sustained. The rejection of the claims on appeal based on this combination of references should be reversed.